DOCUMENT RESUME

ED 057 506 EA 004 000

AUTHOR Carpenter, Polly
TITLE An Evaluation of Performance Contracting for HEW.
REPORT NO P-4729
PUB DATE Nov 71
NOTE 17p.; Paper comprises notes for talk given before American Educational Research Association/AASA Conference on Performance Contracting (Washington, D.C., December 9-10, 1971)

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Academic Achievement; Educational Economics; Evaluation Methods; *Mathematics Education; *Minority Group Children; *Performance Contracts; *Reading Skills; School Industry Relationship; Teacher Associations

ABSTRACT

This speech provides a summary of the Rand/HEW study of eight performance contract programs in the five cities of Gilroy, California; Texarkana, Arkansas; Gary, Indiana; Grand Rapids, Michigan; and Norfolk, Virginia. The effects of performance contracting on instruction and on student learning, the program costs and management, the contractors, and the advantages and disadvantages of performance contracting are considered. Related documents are ED 050 496, ED 050 497. (JF)

ED057506

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

AN EVALUATION OF PERFORMANCE CONTRACTING FOR HEW

Polly Carpenter

November 1971

P-4729

EA 004 000

ED057506

AN EVALUATION OF PERFORMANCE CONTRACTING FOR HEW*

Polly Carpenter

The Rand Corporation, Santa Monica, California

INTRODUCTION

About two years ago various business firms and school districts began discussing a new type of educational arrangement called a performance contract. The firms were offering to instruct students in public schools and have their pay be a function, at least in part, of the students' achievement gains. By achievement gain we mean cognitive growth measured by such norm-referenced tests as the Stanford Achievement Test or the Metropolitan Achievement Test. At the beginning and at the end of a performance contracting program each student takes one of these standardized tests. The difference between his scores on the two tests is called "his gain" and determines the contractor's compensation, at least in part.

Performance contracting is a very controversial concept. It implies involving profit-oriented firms in public school classroom duty. It also implies using test results to measure the effectiveness of instruction and to measure educational output. Both these features have produced extensive interest and concern, not only among the educators but among the general public as well. The history of performance contracting has been evident in popular magazines, the press, and television.

Local educational officials have expressed the need for materials which would assist them in deciding about performance contracting

---

*This paper comprises the notes for a talk on a recent Rand study of performance contracting in education, which was performed pursuant to Contract No. HEW-OS-70-156 with the Department of Health, Education and Welfare. The talk was prepared for the American Educational Research Association-American Association of School Administrators Conference on Performance Contracting to be held in Washington, D.C., December 9-10, 1971.

None of the remarks expressed herein should be interpreted as reflecting the official views, policy, or opinions of The Rand Corporation or of the Department of Health, Education and Welfare.

programs for their districts. The U.S. Department of Health, Education and Welfare, in the summer of 1970, decided to sponsor the preparation of a guide to meet this need. Rand was asked by HEW officials to undertake the project pursuant to contract No. HEW-OS-70-156.

Because any guide should be firmly grounded in empirical study of actual programs, we have been monitoring, in depth, 8 programs in 5 cities during the past year. We have also been following in less detail about 15 other programs or attempts to get programs under way. The results of Rand's work will be presented in three reports available to the public. The first report, R-699-HEW, *The Performance Contracting Concept in Education*, was released in May 1971. The second, currently being prepared for publication, is tentatively entitled *Case Studies in Performance Contracting*. The third and final report will be the *Performance Contracting Guide* addressed to decisionmakers in local school districts. This report is due this winter (1971) and will end the project.

HEW officials were very perceptive forecasters when in 1970 they predicted that performance contracting would be a very popular innovation. During the 1970-71 school year the Office of Economic Opportunity (OEO) sponsored a 20-project, structured demonstration and at least 50 or 60 other programs were under way, financed from a variety of sources.

Why the sudden popularity? There are probably two major reasons for the great interest in performance contracting. The first is that business firms have been asserting that they have the technology and skills to close the achievement gap between students from economically poor homes and those from more advantaged environments. Those in the field of education have been wrestling with America's compensatory education problems for some years with pretty heartbreaking results. They are ripe to respond to any promise of help. A second reason for the popularity of performance contracting has been a hope that it might be an agent for change. Education is a field within which there has been a relatively low rate of innovation. Any mechanism that might overcome the barriers to new techniques or technology is very attractive. In short then, in addition to examining an intriguing new relationship between public and private organizations, the Rand/HEW study deals with some very basic issues of educational policy: the problem of improving compensatory education and that of stimulating innovation.

THE RAND/HEW STUDY

Many people contributed to our field evaluation of ongoing performance contracting programs. They represented a variety of disciplines--not only education, but mathematics, economics, business administration, and psychology. Our approach was, first, to choose a few programs to study extensively so that we would really understand what was going on. At the same time we wanted the sample to be diverse enough to permit us to generalize the conclusions that we formed. We also knew that we needed a flexible plan because the programs would change as the year progressed. Finally, we used a variety of data-gathering techniques: questionnaires, interviews of students, teachers and prominent people in the community, observation in the contracted classrooms and in regular classrooms, searches of records in central files and in school files, and, in some cases, administration of special tests to program students.

The cities in which we did our work represented geographically varied areas: Gilroy, California, the far west; Texarkana, Arkansas, the south central region; Gary, Indiana, and Grand Rapids, Michigan (industrial cities), the northeastern region; and Norfolk, Virginia (a southern city) the eastern seaboard (Fig. 1). Not only were these cities geographically varied, their other characteristics were varied also (Fig. 2). Population ranged from quite small in Gilroy (around 11,000) to fairly large in Norfolk (around 300,000). School enrollments ran from 5,000 in Gilroy to 55,000 in Norfolk. The predominant minority group in each city was usually black, although in Gilroy the minority group was Spanish surnamed. The percent of minority was also quite varied; as a matter of fact, the 60 percent "minority" in Gary indicates that the blacks are actually the majority in that particular city.

The programs themselves also were quite diverse. Some of the major features of the 8 programs studied are displayed on Fig. 3. The contractors were Behavioral Research Lab in Gary; Westinghouse Learning Corporation in Gilroy and in Grand Rapids; Alpha Learning Systems in Grand Rapids (Alpha was part of the OEO experiment), CMES (Combined Motivation Education System) in Grand Rapids; Learning Research Association in Norfolk; and Dorsett Education Systems (during 1969-70) and Educational Development Lab (during 1970-71) in Texarkana.

Fig. 1--Locations of the Five Case Studies

CITY NAME	POPULATION	SCHOOL ENROLLMENT	MINORITY	PERCENT MINORITY
GARY	182,000	47,000	BLACK	60
GILROY	11,250	5,000	SPANISH SURNAME	34
GRAND RAPIDS	200,000	41,000	BLACK	20
NORFOLK	300,000	55,000	BLACK	30
TEXARKANA	60,000	14,000	BLACK	27

Fig. 2--Characteristics of cities in field study

CITY NAME	CONTRACTOR	SUBJECTS	STUDENTS	GRADES	CONTRACTOR SELECTION	CONTRACT MANAGEMENT SUPPORT	CONTRACT EVALUATION OR AUDIT
GARY	BRL	All	850	K-6	S	NO	YES
GILROY	WLC	READING, MATH	100	2-4	S	NO	NO
GRAND RAPIDS	ALPHA	READING, MATH	600	1-3, 7-9	C	YES	YES
	CMES	READING, MATH	600	6-9	S	NO	YES
	WLC	READING, MATH	400	1-6	S	NO	NO
NORFOLK	LRA	READING	250	4-9	C	YES	YES
TEXARKANA	DORSETT (1969-70)	READING, MATH	350	7-12	C	YES	YES
	EDL (1970-71)	READING, MATH	285	7-12	C	YES	YES

Fig. 3--Features of the eight programs

The subjects taught were generally reading and mathematics, although in Norfolk reading was the only subject taught. In Gary, all subjects in the curriculum were taught, since Gary's program involved the entire Banneker Elementary School. Unlike most experimental and demonstration programs in education most of these programs involved fairly large numbers of students. The Gilroy program was the smallest with only 100 students; the Gary program, the largest with 850. Grades ranged from kindergarten to the 12th grade.

Contractors were selected in one of two ways: by sole source selection (that is, the school district agreed beforehand to give the contract to a particular contractor) or by competitive bid (that is, several contractors submitted proposals from which the school district selected one). The programs were evenly divided between those two methods. There were other contractual arrangements. For example, a management support group was often hired to assist the school district in managing the contract, since many school districts felt they lacked the management expertise necessary to handle the business relationships involved in contracts of this type. Similarly, independent evaluation or audit were sometimes contracted on the theory that if an independent evaluator were used, there would be no grounds for charges of collusion. These kinds of arrangements introduced some difficulties in the programs, which will be discussed later.

EFFECTS OF PERFORMANCE CONTRACTING

The effects of performance contracting will be discussed in five areas: instruction, student learning, program cost, program management, and the contractors. Several points will be addressed regarding instruction. Did the programs actually change instruction? What kinds of changes took place? And what was the extent of these changes? The kinds of changes can best be exemplified in a description of the more open classrooms in the programs. The typical scene in a regular classroom in the inner-city schools had the teacher at the head of the class before rows of students seated in desks bolted to the floor. The teacher might be leading a discussion, asking questions or reprimanding the students. This scene was quite familiar to most of those conducting the study.

The scene in the more open classrooms of the performance contracting programs was entirely different. We saw the teacher sitting at a desk, possibly discussing a piece of work with a student; in other parts of the room some students might be sitting at a table, listening to a tape recorder; others would be sitting in study carrels working on workbooks; others sitting at tables reading; and still others walking about getting materials or putting them away. Frequently there would be a teacher aide helping some of the students with their work or with equipment. The contrast with the atmosphere of the regular classroom was quite marked. Students in performance-contracting programs seemed to be more self-reliant, more interested in what was going on, more mature about their learning than were the students in regular classrooms.

Another change was that all of the programs emphasized individualization of instruction in the sense that each student was tested to determine his strengths and weaknesses in the program subjects and then a course of study was prescribed tailored to remedying his weaknesses and to building on his strengths. Thus every student could have a slightly different course of study.

There was an emphasis on teaching the skills of reading and mathematics for two reasons. First, these are the skills that almost everyone agrees are necessary for functioning in our technological world, and it is precisely in these skills that the disadvantaged student is weak. Second, it is easier for educators to agree on the precise skills that everyone should have than it is to agree on what should be the content of, say, a social studies curriculum. In effect, reading and mathematics are less controversial subjects than some others that might be taught.

It took time to implement the changes in instruction even within the program, since all of the "learning systems" had to be tailored to fit the many different variables in specific districts. Some of the programs did not become fully implemented until almost half of the year was gone. At the beginning of the study we were also concerned that the programs would remain "encapsulated" the way so many experimental and demonstration programs do in education--a situation where practically nobody outside of the program cares or even knows anything about

it. Although this seemed to be the case at the beginning of the 1970-71 school year, as time went on the programs seemed to be almost selling themselves. Teachers became interested in them, and wanted to know more about the techniques. By the end of the programs, in most cases, the ideas had spread to other teachers and schools in the district. In some instances, teachers who were initially hostile were won over, especially as they began to see that the contractors were not going to be as spectacularly successful as they had first claimed.

The key question, however, is, Did performance contracts have better than average effects on student learning as measured by standardized* tests? The measure used was the gain score--the difference between a student's score on a pretest and his score on a posttest. Normally we would expect that an average student would gain one year in one year of instruction measured, say, in the spring of one year and the spring of the next. However, in these programs this rarely happened, as shown on Fig. 4. In Gilroy the reading gain was significantly better than that of other Title I students** that year. The math gain was mixed--better at one grade and worse at another. Since Westinghouse Learning Corporation had promised that the Gilroy program would provide better than one year's growth in one year, the program did not live up to the contractor's promise. The Westinghouse Learning Corporation program in Grand Rapids was similar to that in Gilroy; the gains were about the same as those of the Title I students in Grand Rapids in the past.

The CMES program in Grand Rapids seems to have done quite well. However, the gains made are based on results from only a third of the student population. Frequently in performance contracting programs contract provisions are not included for students who enter late, or leave early, or who do not have pretest or posttest scores. Only a

---

*A standardized test is one that has been given to a large number of students throughout the United States so that the test publishers can say what score the average 3d, 5th, or 6th grade child, for example, will make. A certain student's score may then be compared with these norms to determine his grade level.

**Referring to Title I of the Elementary and Secondary Education Act; these are students that are disadvantages in terms of various measures such as family income or membership in a minority group.

CITY NAME	CONTRACTOR	MEAN GAINS	REMARKS
GARY	BRL	1.7/1.7 .7/1.2	READING/MATH/1ST GRADE READING/MATH/2ND–6TH GRADE
GILROY	WLC	.6/.8	READING/MATH
GRAND RAPIDS	ALPHA	NR	TEST IDENTIFICATION NOT RELEASED BY OEO. THREE TESTS USED
	CMES	1.2/1.0	READING/MATH
	WLC	.7/.6	READING/MATH
NORFOLK	LRA	0.1	READING/5TH GRADE
		0.5	READING/7TH GRADE
		0.5	READING/9TH GRADE
TEXARKANA	DORSETT	NR	
	EDL	.5/.3	READING/MATH/6TH–12TH GRADE

Fig. 4--Mean gains on standardized tests

third of the students in the CMES program took the full course of study and had both pretest and posttest scores. We do not know what the other students would have scored.

The data on the Dorsett Educational Systems (in Texarkana) program will never be available because of the alleged teaching of test items in the Dorsett program. This illustrates an important point. In performance contracting, data may be withheld from the public for various reasons.

In Norfolk we have an interesting situation. At the 7th and 9th grade levels the students achieved about what they would have achieved in an ordinary program; thus Learning Research Association did not fulfill its guarantee of 1.7 years of growth in 1 year. At the 5th grade the gain scores appeared to be almost purely the result of chance. The pretest of these students showed many of them to be functionally illiterate, so the teacher chose first to improve their word-attack skills, that is, their ability to hear a word and then find it on the printed page. For most of the year this objective was pursued, and almost none of the children progressed to reading comprehension objectives. But word attack skills were not included on the norm-referenced tests. For example, the Metropolitan Achievement Test (MAT) has three sections, one of which measures word-attack skills. Since this section has to be administered orally, it is expensive to administer and requires special training of the test administrator. Thus this section was not used in the evaluation. The two sections used measured reading comprehension and vocabulary. Therefore it is not too surprising that the gain scores on the MAT appeared to be random, as illustrated on Fig. 5. (Gain scores on the other two tests used at the 5th grade showed similar distributions.) A test of the word-attack skills assigned to the students in the program showed that they had mastered these objectives at the rate of about 80 to 90 percent. We cannot, however, conclude that the students learned something from the program, because they were not pretested on these objectives nor was a control group used. Thus in evaluating programs it is necessary that the program and the testing instruments are synchronized and that base-line data are obtained.

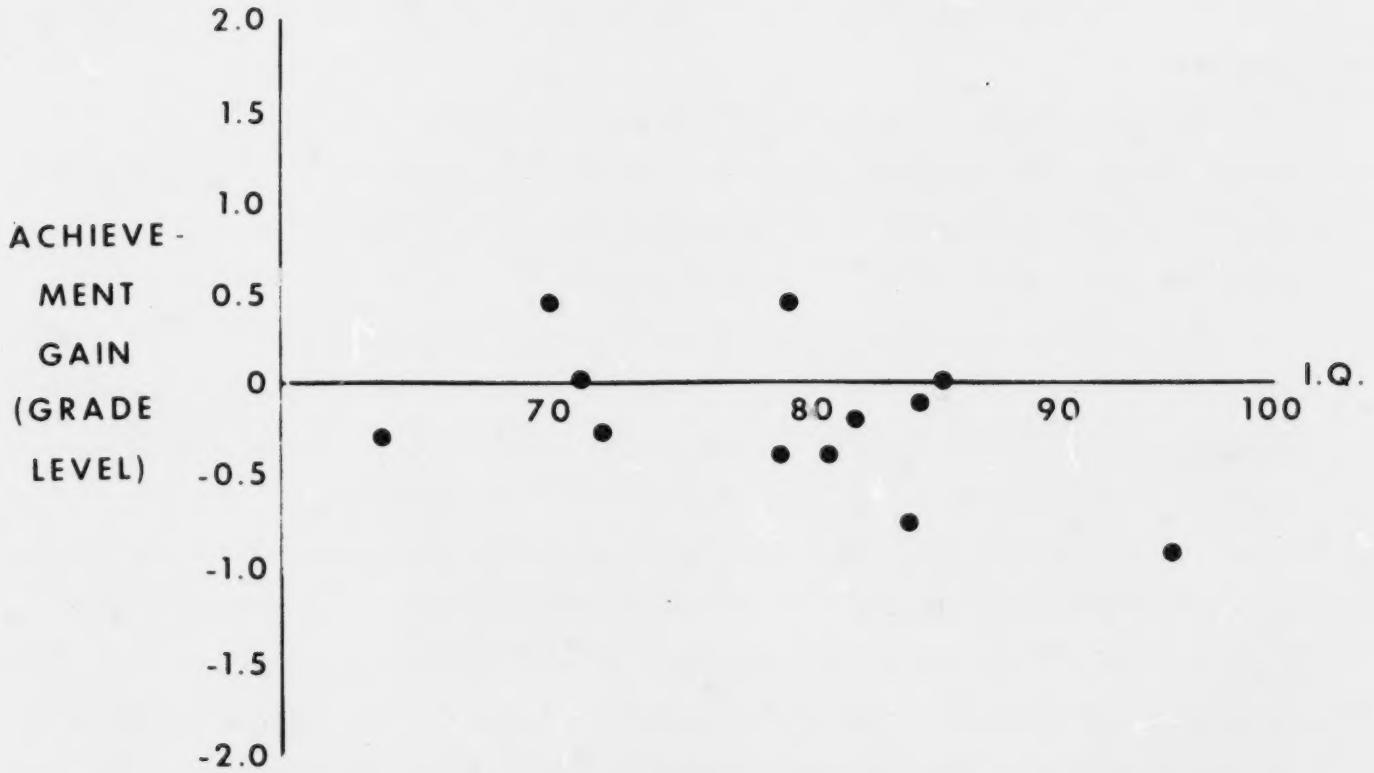

Fig. 5--Gain scores (Mat) 5th grade reading Norfolk

The Gary program appears to have been much more successful than the others, particularly in the area of mathematics. There were two obvious differences between the Gary program and the others. Perhaps the most important was that because the contractor had control of the entire curriculum, he was able to concentrate almost exclusively on teaching reading and math during the first semester. Another important difference was that Gary parents were clearly deeply involved in their children's education, in contrast to most of the parents of students in other programs.

The costs of the performance contracting programs can be compared to each other and to those of other compensatory programs if the unit costs are the same, for example, if a teacher is assumed to receive the same salary whether he or she is teaching in Gary or Norfolk. On this basis, the costs that would be incurred yearly for instruction for reading or mathematics (there was no significant difference in cost between reading and mathematics) of the performance contracting programs would be similar to or sometimes 25 percent less than those of the regular Title I programs. This is because the contractors substituted materials, aides, and equipment for teachers. For example, in the Norfolk performance contracting program the teacher handled 25 students in the classroom, five periods a day. In a comparable remedial-reading program under Title I in Norfolk, the teacher handled 10 students five to six periods a day. Moreover, when we asked the Norfolk teachers in the performance contracting program whether they felt the class size was too large, they said they thought it was too small. They could have handled more students if the room had been larger.

Compensatory programs, including performance-contracting programs, should be and are more expensive than regular programs by 60 to 70 percent. After all, these programs are trying to make up for deficiencies not only in the student's education but in his home environment as well.

Performance contracting had an effect on program management. We know that not only school systems but almost all institutions are short of the management talent that is needed to effectively implement change. Fortunately, in each of the programs there was someone willing and able to take over the duties of effectively implementing the program; in

some other programs lack of leadership resulted in ineffective implementation. Because the programs were developmental in nature, flexibility of management was needed. There were times when the contractual arrangements actually hindered changes that should have been made to make the program more effective.

Although we would expect qualified teachers to be involved in programs of this type, some of the contractors felt that they had programs that were "teacher-proof" and even went so far as to try to show that no matter what kinds of teachers were assigned the program would work. By the end of the year, however, these contractors had realized the importance of making use of the teachers' knowledge of the student population as a valuable resource in implementing their program.

A number of people in the school district had to assume new roles. In order for the contractors to make good their claims that their systems could teach they had to actually become involved in the instructional process. School administrators had to be sure that they lived up to the terms of the contract: that enough students were available at the right time, that the rooms were ready, and that tests were administered properly. And teachers had to become managers of instruction rather than presenters of information.

What advantages did the contractors receive from their programs? We are not sure that they made any money. None of them fulfilled his performance guarantee except BRL and CMES, but because we do not know how much the 1970-71 programs actually cost the contractors, we cannot say whether they gained or lost. Although monetary gain has been publicized as one of the reasons contractors are interested in performance contracting, we think they are much more interested in obtaining new markets and follow-on contracts. Most of the contractors have small organizations that have had difficulty breaking into the educational field or providing competition to major textbook manufacturers. The performance contracting mechanism gave them a way in because of the performance guarantee. Follow-on contracts have resulted from almost every program that we have monitored. Westinghouse Learning Corporation in Gilroy is the only one without a follow-on contract because Westinghouse has decided to close down its Learning Division. However,

even in Gilroy teachers want to continue the Westinghouse approach in their own learning centers. The demise of Westinghouse in Grand Rapids was followed by the formation of a company called Learning Unlimited, which is going to continue the Westinghouse type of operation.

ADVANTAGES AND DISADVANTAGES

Performance contracting has some disadvantages and problems. The disadvantages are complexity and narrowness. The technique is inherently complex because the contractual arrangement introduces new problems in assignment of authority and responsibility and the management of the new program becomes more involved. The technique is currently narrow because the performance contract must focus on skill areas, since the definition of objectives and the construction of tests are difficult in more controversial subjects such as art or social studies.

There was also an exacerbation of old problems. Management problems may be accentuated; legal difficulties may arise from contractual arrangements, which may sometimes violate the education code or agreements with textbook manufacturers or teacher unions; problems related to tests and test administration will be more obvious because measurement is so crucial to performance contracting; finally, the issue of teacher status has caused difficulty with teachers and teacher unions.

Performance contracting offers two important advantages for teachers and students. First, it really does facilitate radical change. Outsiders to the educational system are freer to implement change than are those who are part of the system. Second, performance contracting has caused an increased emphasis on accountability: The schools now feel they are accountable for student learning, rather than for inputs, such as the teacher/student ratio or teacher's salaries. The emphasis on student learning is a very healthy thing. It has forced the contractors to look very carefully at their systems and to understand what their claims mean in terms of student learning. School administrators have become more aware of the problems of evaluation and testing. Teachers have become more aware of the necessity for their students to measure up to other students or to their own past performance; and the students themselves may become accountable in the future. In fact,

rumor has it that some students in a small town in Texas complained that, since they were the ones ultimately responsible for their own learning, a performance contract let to a nearby educational firm should have been given to them directly.

In conclusion, we think performance contracting will continue for at least a few years, in spite of some of the poor showings on student achievement. Certainly the follow-on contracts suggest this, even though some of them do not have performance guarantees, and new contractors are entering the field. Performance contracting is also a helpful change agent and does provide the emphasis on accountability that is currently in vogue. Whether the technique will have any lasting benefit we cannot say. First, considerable work will be needed to develop measuring instruments before performance contracting can be of wider use.